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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

IN RE CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION

) Master File No. 4:07-cv-5944-JST

) MDL No. 1917

This Document Relates to:

ALL INDIRECT PURCHASER ACTIONS

) **DECLARATION OF JANET S. NETZ,**
) **PH.D IN RESPONSE TO IRICO**
) **DEFENDANTS' MOTION TO**
) **PARTIALLY EXCLUDE TESTIMONY**

) Hearing Date: May 4, 2023

) Time: 2:00 p.m.

) Courtroom: Courtroom 6 – 2nd Floor

) The Honorable Jon S. Tigar

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MOTION TO PARTIALLY EXCLUDE TESTIMONY**

March 20, 2023

DECLARATION OF JANET S. NETZ, PH.D

i of i

I.	Introduction.....	1
A.	Qualifications	1
B.	Summary of Defendants’ criticisms of my opinions.....	2
C.	My assignment	2
II.	My overcharge model provides a reliable basis for estimating class-wide damages	3
A.	My overcharge model was designed to answer the question of aggregate class-wide damages, not individualized damages.....	3
B.	My overcharge model is fit to the facts of the case.....	4
C.	My overcharge model accounts for major market factors.....	5
D.	My cartel period structure is based on case evidence	6
E.	My model fits the data well.....	7
F.	My results are economically and statistically significant.....	7
G.	My results are consistent with the case evidence	7
H.	My results are consistent with academic work on cartel overcharges	7
I.	My results are robust to reasonable changes and Ms. Guerin-Calvert’s ad hoc changes do not undermine the reliability of my overcharge model.....	8
1.	<i>Ms. Guerin-Calvert’s ad hoc changes lack an economic basis.....</i>	8
2.	<i>Ms. Guerin-Calvert’s ad hoc changes induce multicollinearity.....</i>	10
3.	<i>Ms. Guerin-Calvert’s own method and unreported results support my conclusion... </i>	11
III.	I limited my opinion on the Chinese “price floor” to the economic opinion that the economic reasoning proffered by Ms. Guerin-Calvert regarding the Chinese “price floor” is flawed and that my estimate of class-wide damages is reliable.....	12
IV.	Conclusion	14

I. Introduction

A. Qualifications

I, Janet S. Netz, am a founding partner of applEcon, LLC. I have been a tenured Associate Professor of Economics at Purdue University and a Visiting Associate Professor at the University of Michigan. I received a B.A. (1986) from the University of California, Berkeley, cum laude, and an M.A. (1990) and Ph.D. (1992) from the University of Michigan, all in Economics. My doctoral fields of study were Industrial Organization – the study of firm interaction and market performance – and International Trade and Finance.

I have taught Industrial Organization at the undergraduate and doctoral levels; Antitrust and Regulation at the undergraduate level; Microeconomic Theory at the undergraduate and master's levels; and International Economics at the undergraduate and master's levels. My research has focused on competitive interactions of firms and strategies firms can use to increase profits as well as the resulting impact on firms and the market. I have published in peer-reviewed scholarly journals and have presented my research at many conferences and seminars. I provide my academic employment and publication histories in my curriculum vitae, which is attached as Exhibit A.

I have testified at trial and by affidavit, declaration, or deposition in both named plaintiff and class action matters related to antitrust, consumer protection, and business practices, especially with regard to the economic impact of conduct, for twenty years. I have specific knowledge of the CRT industry through my previous work in this matter, which includes the following filings:

1. Declaration of Janet S. Netz, Ph.D. in Support of Motion of Indirect-Purchaser Plaintiffs for Class Certification, October 1, 2012.¹
2. Rebuttal Declaration of Janet S. Netz, Ph.D. in Support of Motion of Indirect-Purchaser Plaintiffs for Class Certification, February 15, 2013.²
3. Expert Report of Janet S. Netz, Ph.D., April 15, 2014.³

¹ Netz, Janet S., 01 October 2012, Declaration of Janet S. Netz, Ph.D., In Support of Motion of Indirect-Purchaser Plaintiffs for Class Certification, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division).

² Netz, Janet S., 15 February 2013, Rebuttal Declaration of Janet S. Netz, Ph.D., in Support of Motion of Indirect-Purchaser Plaintiffs for Class Certification, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division).

³ Netz, Janet S., 15 April 2014, Expert Report of Janet S. Netz, Ph.D., In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division) (Hereinafter "Netz Expert Report").

I filed errata to my expert report on July 3, 2014. Netz, Janet S., 03 July 2014, Errata to the Expert Report of Janet S. Netz, Ph.D., In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division). When I reference my expert report, it is inclusive of the updated figures in my errata.

DECLARATION OF JANET S. NETZ, PH.D

2 of 14

4. Rebuttal Expert Report of Janet S. Netz, Ph.D., September 26, 2014⁴
5. Janet S. Netz, Ph.D. Rebuttal to Supplemental Expert Report of Margaret E. Guerin-Calvert and Expert Report of Donald Clarke, 27 April 2022⁵

I provide a complete list of the cases on which I have testified and consulted in my curriculum vitae, which is attached as Exhibit A.

applEcon bills my work on this case at the rate of US\$800 per hour. My and applEcon's compensation is independent of my opinions or the outcome of the case.

B. Summary of Defendants' criticisms of my opinions

Irico Defendants have filed a motion to partially exclude my testimony based on these arguments:⁶

1. "Dr. Netz fails to consider important market factors that are necessary to distinguish alleged cartel damages from non-cartel market conditions;"
2. "her application of a single overcharge for a 12-year period cannot withstand basic testing without falling apart;"
3. "her failure to incorporate the impact of binding Chinese CPT price regulations that relate to but-for pricing cannot be justified;" and
4. "Dr. Netz also improperly purports to offer an expert opinion in response to Prof. Donald Clarke – Irico's expert on Chinese law – to refute his expert testimony on the Chinese pricing regulations."⁷

Ms. Guerin-Calvert has filed a declaration in support of Defendants' motion.⁸

C. My assignment

Plaintiffs' counsel has asked that I review and respond to Irico Defendants' motion and Ms. Guerin-Calvert's declaration supporting Defendants' motion. As I explain in more detail in the rest of this declaration, I conclude that Defendants' and Ms. Guerin-Calvert's arguments that my

⁴ Netz, Janet S., 26 September 2014, Rebuttal Expert Report of Janet S. Netz, Ph.D., In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division) (Hereinafter "Netz Expert Rebuttal Report").

⁵ Netz, Janet S., 27 April 2022, Janet S. Netz, Ph.D. Rebuttal to Supplemental Expert Report of Margaret E. Guerin-Calvert and Expert Report of Donald Clarke, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division) (Hereinafter "Netz Rebuttal to Supplemental Reports").

⁶ 15 February 2023, Defendants Irico Group Corp. and Irico Display Devices Co., Ltd.'s Notice of Motion and Motion to Partially Exclude the Proposed Expert Testimony of Dr. Janet Netz, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division) (Hereinafter "Irico Defendants' Motion to Exclude"), at 7.

⁷ Irico Defendants' Motion to Exclude, at 1-2.

⁸ Guerin-Calvert, Margaret, 15 February 2023, Declaration of Margaret E. Guerin-Calvert in Support of Motion by Irico Group Corp. and Irico Display Devices Co., Ltd. to Exclude Testimony of Dr. Janet Netz, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division) (Hereinafter "G-C Declaration").

testimony should be partially excluded rely on mischaracterizations and false premises and otherwise are incorrect and invalid.

Economic principles and econometric methods reliably applied to the case evidence support my conclusion that my overcharge model provides a reliable basis for estimating class-wide damages. I have explicitly limited my opinions regarding the purported “price floors” to the economic aspects of the documents Defendants’ experts have referenced and the economic impact of the putative price floors mentioned in those documents.

I list the confidential and public documents I have relied upon in Exhibits B and C, respectively.

II. My overcharge model provides a reliable basis for estimating class-wide damages

Defendants claim that my overcharge model is unreliable because I do not include important market factors to account for non-cartel market conditions and I estimate overcharges for two time periods, one of which is twelve-years long.⁹ I now demonstrate that, contrary to Defendants’ claims, my overcharge model provides a reliable basis for estimating aggregate, class-wide damages.

A. My overcharge model was designed to answer the question of aggregate class-wide damages, not individualized damages

The first step in an empirical investigation is identifying the question of interest.¹⁰ The primary purpose of my regression model was to estimate the aggregate amount of overcharges, if any, suffered by the class as a whole over the relevant period. Defendants’ argument that my overcharge “model is built on the premise that a fixed, unwavering and constant overcharge...for the entire 12-year period from 1995 to 2006”¹¹ is a false characterization and ignores the primary purpose of the model. The characterization is false because it insinuates that the model assumes that each class member suffered the same overcharges over the entire period. That is neither the express nor implicit output of my regression model. The model produces a reliable overcharge estimate for all class members over the entire period. Ms. Guerin-Calvert’s revision to the structure of the overcharge estimates in my model is irrelevant to the question my model was seeking to answer. My model is well suited to reliably calculate aggregate, class-wide damages and Ms. Guerin-Calvert’s model produces output that is not focused on the question my model is

⁹ Irco Defendants’ Motion to Exclude, at 7.

¹⁰ See, e.g.,

- “How does one go about structuring an empirical economic analysis? It may seem obvious, but it is worth emphasizing that the first step in any empirical analysis is the careful formulation of the question of interest.” Wooldridge, Jeffrey M., 2000, *Introductory Econometrics: A Modern Approach*, South-Western College Publishing: Mason, at 2.
- “Research begins with a clear formulation of a research question. The data to be collected and analyzed must relate directly to this question; otherwise, appropriate inferences cannot be drawn from the statistical analysis.” Federal Judicial Center and National Research Council, 2011, *Reference Manual on Scientific Evidence: Third Edition*, The National Academies Press: Washington, DC, at 311.

¹¹ Irco Defendants’ Motion to Exclude, at 10.

addressing (as well as being economically and econometrically flawed, as discussed in Section II.I. below).

Irico defendants make a point that they are not re-arguing any class certification issues that have already been considered.¹² As I pointed out in my Merits Rebuttal report, “The facts and the data of the case described in my original report formed the basis for my opinion that the cartel did in fact impose overcharges on class members. My overcharge model is limited to estimating a reasonable quantification of class-wide damages [for the entire class as whole over the entire period].”¹³ That is, my conclusion that the cartel did, in fact, cause harm to each class member was already considered at the class certification stage and is separate from the quantification of the aggregate, economic harm suffered by the class.

Thus, Ms. Guerin-Calvert’s reliance on an ABA quote regarding “a more accurate estimate of overcharges for specific class members”¹⁴ is misplaced, as I am not relying on the overcharge estimate for my opinion – already approved by the Court – on common impact.

As I have previously explained,¹⁵ it is a misuse of my model to attempt to use it to answer questions or make inferences about individualized damages amounts. My model provides a reliable measure of class-wide, as opposed to individual, damages, which is precisely what I was doing in specifying my regression model.

B. My overcharge model is fit to the facts of the case

Prior to formulating an overcharge model to quantify aggregate class-wide damages, I studied the economics of the market,¹⁶ the case evidence on the at-issue conduct,¹⁷ and I evaluated the available data.¹⁸ I then specified an overcharge model that fit the facts of the case.

This approach to model specification is recommended in the econometrics field.¹⁹

¹² “We are not re-arguing any of the issues previously considered by Judge Conti in granting the certification of the IPP class.” Irico Defendants’ Motion to Exclude, at 3.

¹³ Netz Expert Rebuttal Report, at 54, footnote omitted.

¹⁴ Guerin-Calvert, Margret E., 05 August 2014, Expert Report of Margret E. Guerin-Calvert, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division) (Hereinafter “G-C Expert Report”), at footnote 175, emphasis added.

¹⁵ Netz Expert Rebuttal Report, at Section VII.A. My overcharge estimates are consistent with my claim of class-wide impact.

¹⁶ Netz Expert Report, at Section VI. The CRT Industry.

¹⁷ Netz Expert Report, at Section VIII. The CRT cartel caused class members to pay higher prices.

¹⁸ Netz Expert Report, at Section IX.B. The facts and data of the case form the basis for the direct overcharge model.

¹⁹ See, e.g.,

- “Although the controversy over econometric methodology may never be resolved, the debate has been fruitful in that some general principles have emerged to guide model specification. 1. Economic theory should be the foundation of, and guiding force in, a specification search.” Kennedy, Peter, 26 February 2008, A Guide to Econometrics, 6th Edition, Wiley-Blackwell: Malden, at 75.
- “As with all of the other issues discussed in this chapter, decisions about model specification should be guided by factors such as the question being addressed by the empirical study, economic theory, and the

C. My overcharge model accounts for major market factors

In addition to criticizing my model specification by reference to the wrong question of interest, Irico's counsel also misrepresent what variables are included in my model. They claim that "Dr. Netz used only the following variables in her regression: Price, Cartel Variable, Glass Price, GDP and Unemployment, LCD Market Share, Time, Screen Size, and Identity of the Manufacturer."²⁰ This is factually wrong. I also included a set of variables for quarters (Quarter) to account for possible seasonal trends in CRT prices.²¹ Further, I added variables to capture the interactions between glass and screen size as well as manufacturer and screen size.²² I also added variables to capture non-linear trends in time, unemployment, and (the natural log of) LCD shares.²³ Moreover, I converted all currency-related variables to U.S. dollars, thereby also controlling for exchange rates.

It is also not true that my "overcharge model fails to account for major market factors that affected CRT prices[.]"²⁴ I did, in fact, include major supply and demand factors. My model includes variables for:²⁵

- Glass costs (input cost)
- CRT screen size (proxy for input cost, but also a demand control)
- OECD output (demand control)
- OECD unemployment rate (demand control)
- LCD revenue shares of finished TVs and monitors (product substitute)
- Manufacturer fixed effects
- Time trends (linear and quadratic)
- Variables indicating the calendar quarter to control for seasonal trends

While Ms. Guerin-Calvert and I disagree on which variables best control for major supply and demand factors, it is factually incorrect to say that I failed to include them. The dispute comes down to a simple disagreement between Ms. Guerin-Calvert and me as to which supply and demand factors to employ. Other defense experts have agreed, at least in part, with my choice of variables. For example, as I noted in my Merits Rebuttal Report, "Defendants' expert Dean

quality of the available data." American Bar Association, 2014, *Econometrics: Legal, Practical, and Technical Issues*, Second Edition, ABA Publishing: Chicago, IL, at 101.

²⁰ Irico Defendants' Motion to Exclude, at 4.

²¹ Netz Expert Report, at 104.

²² These are the variables $(\ln Glass_t \times Size_{it})$, $(\ln Glass_t \times Size_{it}^2)$, and $(Maker_{it} \times Size_{it})$ reported in Netz Expert Report, at 104.

²³ These are the variables U_t^2 and $\ln LCD_t^2$ reported in Netz Expert Report, at 104.

²⁴ G-C Declaration, at Section III.A.

²⁵ Netz Expert Report, at 104.

Snyder also identifies glass as a significant part of the CRT unit price and uses the Bank of Korea glass index to measure CRT glass prices in his analyses.”²⁶

Moreover, the specific measures Defendants have identified are non-exhaustive and of questionable relevance. As I explained in my Merits Rebuttal Report:

“There are a number of alternative indices that proxy for the same types of information as the variables Ms. Guerin-Calvert and Prof. Willig suggest. For example, fuel is a component of both shipping costs and production (energy) costs and so would be relevant even to CRTs produced in North America and that don’t involve ocean shipping, whereas Prof. Willig testified that the Baltic shipping index he used would be irrelevant to these tubes. He also acknowledged that he is not sure what is in the U.S. electronics store variable he used but thinks it includes refrigerators and other non-CRT related home appliances.”²⁷

Further, firm-specific cost data was requested from defendants. I used the glass index as a representation of costs because defendants did not produce sufficient cost data.²⁸

In practice, there will always be additional variables or alternative measures of a given variable that can be included in an econometric model.²⁹ My overcharge model includes variables that control for major non-cartel related market forces, as my economic investigation suggested. The results of my model confirm that those choices were reliable. See Sections II.E and II.I, below.

D. My cartel period structure is based on case evidence

Like my overall model specification, my cartel period structure – the time periods for which I estimated overcharges and my decision to split the estimation into two periods – is based on case evidence. Case evidence indicates that information exchanges began as early as February 1995 and continued through at least late 2007.³⁰ This evidence guided my selection of the cartel period for purposes of calculating class-wide damages.

Moreover, my investigation revealed that it became public in the last quarter of 2006 that the United States Department of Justice (DOJ), the Korean Fair Trade Commission, and the Japanese Fair Trade Commission started cartelization investigations into a number of LCD producers, including some of the CRT defendants.³¹ This information caused me to bifurcate the cartel period starting in the first quarter of 2007 to allow for the possibility that knowledge of the

²⁶ Netz Merits Rebuttal Report, at 61.

²⁷ Netz Merits Rebuttal Report, at 62, footnote omitted.

²⁸ Netz Expert Report, at 102.

²⁹ “In practice, it is virtually impossible to ensure that every relevant variable has been captured in a regression model.” American Bar Association, 2014, *Econometrics: Legal, Practical, and Technical Issues*, Second Edition, ABA Publishing: Chicago, IL, at 81.

³⁰ Netz Expert Report, at 99.

³¹ Netz Expert Report, at 99-100.

LCD cartel investigation impacted the effectiveness of the CRT cartel. This judgment is supported by the relevant economic literature.³²

E. My model fits the data well

One line of evidence that my overcharge model is reliable is its ability to explain the patterns observed in the data. The variables I included in my model and the specification I formulated explain over 95% of CDT price variation and over 98% of CPT price variation.³³ This is strong evidence that my model does not omit a major factor needed to explain CDT or CPT prices.

F. My results are economically and statistically significant

Empirical results can also be evaluated based on the economic and statistical significance.³⁴ The results of my class-wide overcharge model are both economically and statistically significant.³⁵

G. My results are consistent with the case evidence

The case evidence demonstrates that cartel members spent significant time and resources conducting regular meetings, monitoring other members' output, and generating and sharing market intelligence for over twelve years. Moreover, cartel members knowingly bore the legal risks of fines, damages, and jail-times for executives. The case evidence further indicates that cartel members reported that they could and did raise prices,³⁶ and that they could and did restrict output and capacity in order to raise prices.³⁷

My overcharge estimates fit the economic principle that firms participate in a cartel only if they expect the price increase to exceed the expected costs of doing so.³⁸

H. My results are consistent with academic work on cartel overcharges

Yet another way to corroborate my results is evaluating whether they are consistent with the academic literature on cartel overcharges. The overcharge results I found are within the range of those reported by academic researchers. For example, based on research intended to "assemble

³² As explained in a widely-used textbook on industrial organization economics, cartel behavior is impacted by whether the firms expect to be caught and punished. Carlton, Dennis W. and Jeffrey M. Perloff, 2005, *Modern Industrial Organization*, Fourth Edition, Person Addison Wesley, at 131.

³³ Netz Merits Rebuttal Report, at 61.

³⁴ "Multiple regression results can be interpreted in purely statistical terms, through the use of significance tests, or they can be interpreted in a more practical, nonstatistical manner...Practical significance means that the magnitude of the effect being studied is not de minimis—it is sufficiently important substantively for the court to be concerned." Federal Judicial Center and National Research Council, 2011, *Reference Manual on Scientific Evidence: Third Edition*, The National Academies Press: Washington, DC, at 318.

³⁵ Netz Expert Report, at 106 and Exhibit 65.

³⁶ Netz Expert Report, at 27.

³⁷ Netz Expert Report, at 29.

³⁸ "Only if a cartel is expected to raise the price above the noncartel price and keep it high do firms join. If the noncartel price is close to the cartel price, then firms may not believe that joining the cartel is profitable given the legal liability they potentially face from belonging to a cartel." Carlton, Dennis W., and Jeffrey M. Perloff, 2005, *Modern Industrial Organization*, Fourth Edition, Person Addison Wesley, at 131 and accompanying footnote.

and analyze the most comprehensive collection” of cartel overcharges, and examining the estimates “for systematic differences in reliability”, Connor (2014) found that “the median average long-run overcharge for all types of cartel periods is 23.0%” and “median overcharges of international-membership cartels are 38% higher than those of domestic cartels”.³⁹ The author points out that the “results of the survey can be used as benchmarks”.⁴⁰ A follow-on paper found that “the scholarship [in Connor (2014)] on cartel overcharges has withstood the tests of time.”⁴¹

My conclusion that 22.0% and 9.0% are reasonable measures of the direct overcharge imposed on CDTs and CPTs, respectively, are reliable and supported by academic work on cartel overcharges.

I. My results are robust to reasonable changes and Ms. Guerin-Calvert’s ad hoc changes do not undermine the reliability of my overcharge model

The reliability of my overcharges results is also evidenced by their robustness to reasonable changes to my approach. I demonstrated in my expert report that my class-wide overcharge estimates are robust to changes in the demand variables, supply variables, and cartel period.⁴² For each sensitivity analysis, the overcharge remains positive and significant for both CDTs and CPTs.

As I explained above, Ms. Guerin-Calvert’s annualized cartel model seeks to answer a different question (damages to subsets of the class) than my overcharge model (class-wide damages). Further, she has already acknowledged that “year-to-year changes in overcharge estimates do not themselves indicate that Dr. Netz’s model is unreliable”.⁴³ I now explain why Ms. Guerin-Calvert’s ad hoc changes to the overcharge variables also do not provide evidence that my class-wide overcharge model is unreliable and in fact are unreliable themselves.

1. Ms. Guerin-Calvert’s ad hoc changes lack an economic basis

I explained in Sections II.A-II.H why my cartel period structure and the variables in my model are reasonable. Ms. Guerin-Calvert, in contrast, offers no economic justification for why the overcharge would vary from calendar year to calendar year and does not offer the overcharges of her model as reliable estimates of overcharges in each year. In fact, Ms. Guerin-Calvert has acknowledged that her “sub-periods are provided to illustrate the available data for sensitivity testing of Dr. Netz’s model for her assumption of uniformity of cartel impacts and for omitted variables and not as alternative economically relevant periods.”⁴⁴ Given her annual overcharge variables do not reflect economically relevant information, Ms. Guerin-Calvert’s approach is little more than data mining, which is uninformative: any model will be susceptible to changing

³⁹ Connor, John M., 18 March 2014, Cartel Overcharges, The Law and Economics of Class Actions (Research in Law and Economics, Vol. 26), Emerald Group Publishing Limited, Bingley, 249-387, at 249 and 252.

⁴⁰ Connor, John M., 18 March 2014, Cartel Overcharges, The Law and Economics of Class Actions (Research in Law and Economics, Vol. 26), Emerald Group Publishing Limited, Bingley, 249-387, at 252.

⁴¹ Conner, John M., and Lande, Robert H., 2017, Comment on “The Empirical Basis for Antitrust: Cartels, Mergers, and Remedies” International Journal of Economics of Business, 24:3, 329-338, at 335.

⁴² Netz Expert Report, at 106 and Exhibit 65.

⁴³ G-C Expert Report, at ¶115.

⁴⁴ G-C Declaration, at footnote 54, emphasis added.

DECLARATION OF JANET S. NETZ, PH.D

9 of 14

results if enough alternatives are tried.⁴⁵ Further, as I explain in Section II.I.3, although she neglects to report them, Ms. Guerin-Calvert's own method and backup materials yield similar overcharges to mine. Cherry-picked results do not provide a valid basis to evaluate econometric models.

Ms. Guerin-Calvert arbitrarily estimates annual overcharges, with no explanation as to what economic factors are changing each calendar year. Her only economic justification for deviating from my approach is that the damages period is long and competitive conditions were changing.⁴⁶ Ms. Guerin-Calvert ignores the fact that my model incorporates variables to capture changes in competitive conditions, as I explained:

"The availability of functional substitutes also influences the level of consumer demand for a product. In the present case, other display technologies such as LCD monitors and TVs provided functional substitutes for end-users. Data on worldwide LCD TV and monitor revenues as a share of total TV and monitor revenues are included in the regression to account for changes in the level of demand for CRTs."⁴⁷

To test whether my model results are reliable under the overcharge time periods I specified, I sought to identify whether there were other time period truncations that may be economically justifiable. I did identify possible other time periods that had some economic justifications. Using these time periods that do have an economic rationale produces results that support my overcharge model. I break the cartel period into three time periods that match economic events rather than random calendar year subsets as follows: period 1, when CRTs were more prevalent than LCDs; period 2, when LCDs dominated the market; and period 3, when the collusion allegations came to light. The break point between periods 1 and 2 is different for CDTs and CRTs. For CDTs, the first period includes 1995-2002, and for CPTs, the first period includes 1995-2005. For both, the break point between periods 2 and 3 is 2007. The results are similar to those in my expert report. See Table 1 for the new results and Table 2 for the original results.

Table 1: Overcharge Results Using Three Overcharge Periods

	Period 1 CRTs most prevalent display technology	Period 2 LCDs most prevalent display technology	Period 3 Collusion allegations come to light	Weighted Average
CPT	11.6%	6.2%	0.5%	11.3%
CDT	22.3%	29.5%	21.8%	23.0%

⁴⁵ "The first and foremost ingredient in a search for the correct set of explanatory variables is economic theory. If economic theory cannot defend the use of a variable as an explanatory variable, it should not be included in the set of potential independent variables. Such theorizing should take place before any empirical testing of the appropriateness of potential independent variables[.]" Kennedy, Peter, 2008, A Guide to Econometrics, Sixth Edition, Blackwell Publishing: Malden, MA, at 94, emphasis added.

⁴⁶ Guerin-Calvert, Margaret E., 16 March 2022, Supplemental Expert Report of Margaret E. Guerin-Calvert, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division) (Hereinafter "G-C Supplemental Expert Report"), at ¶¶13-14.

⁴⁷ Netz Expert Report, at 103.

Table 2: Overcharge Results from my Expert Report

	Period 1 1995-2006	Period 2 2007	Weighted Average
CPT	9.0%	3.1%	8.9%
CDT	22.0%	11.4%	22.0%

I emphasize that while there is economic justification for estimating an overcharge for each of three periods – as opposed to the two periods in the model in my reports and on which I base my opinions – I remain of the opinion that the specification in the model in my report with the two time periods is the better specification and I remain with that specification. Based on the case evidence and the fact that I directly control for the share of LCD sales, I believe my overcharge structure is the most reliable. However, breaking the cartel variable into additional periods tied to economic changes supports my class-wide overcharge estimates. In fact, the overcharges in the model with the supported third period are greater than my original model on which I continue to base my opinion.

2. Ms. Guerin-Calvert's ad hoc changes induce multicollinearity

Ms. Guerin-Calvert creates a number of models and challenges the reliability of my class-wide overcharges on the basis of her reformulations. The three models for which she reports results consist of changes to my model imposing (1) annual overcharge variables; or, alternatively (2) two-year overcharge variables; or, alternatively (3) three-year overcharge variables.⁴⁸ As explained above, Ms. Guerin-Calvert offers no economic justification for these approaches.

As a widely used econometrics text explains: “High (but not perfect) correlation between two or more independent [explanatory] variables is called multicollinearity.”⁴⁹ The more multicollinearity there is between explanatory variables, the more difficult it is to distinguish their effect on the outcome variable.⁵⁰ In addition to the lack of economic rationale for their inclusion, breaking the cartel variables into additional sub-periods induces multicollinearity between Ms. Guerin-Calvert's overcharge variables and the time trend variables that I have included in the model. The multicollinearity makes it so that the impact of the overcharge and time trend variables are confounded and their effects cannot be separately identified. The more periods the cartel indicator is divided into, the more the multicollinearity between the overcharge variables and the time trend, increasing the difficulty in interpreting the coefficients on these

⁴⁸ G-C Declaration, at ¶¶25 and 31.

⁴⁹ Wooldridge, Jeffrey M., 2013, *Introductory Econometrics: A Modern Approach*, Fifth Edition, South-Western College Publishing: Mason, at 95.

⁵⁰ “However, when two or more variables are highly, but not perfectly, correlated—that is, when there is multicollinearity—the regression can be estimated, but some concerns remain. The greater the multicollinearity between two variables, the less precise are the estimates of individual regression parameters, and an expert is less able to distinguish among competing explanations for the movement in the outcome variable[.]” Rubinfield, Daniel L., 2011, *Reference Guide on Multiple Regression*, *Reference Manual on Scientific Evidence*, Third Edition, National Academies Press: Washington, D.C., 303-357, at 324.

variables. In consequence, this multicollinearity renders Ms. Guerin-Calvert's model results unreliable.

3. Ms. Guerin-Calvert's own method and unreported results support my conclusion

Ms. Guerin-Calvert reports the results of breaking the twelve-year overcharge variable into 1-, 2- and 3-year periods. However, her back-up materials show that she also created code to estimate overcharges for a 6-year period, though she neglected to report these results.⁵¹ Further, she neglects to include in her report a 4-year overcharge period, by which twelve is also divisible, in her exercise of dividing the twelve-year overcharge variable into equally divisible time periods. Both the 6-year period and the 4-year period provide CPT and CDT overcharges similar to those I estimated. See Table 2 (replicated below for the reader's convenience) for my results and Tables 3 and 4 for the more disaggregated results.

Table 2: Overcharge Results from my Expert Report

	Period 1 1995-2006	Period 2 2007	Weighted Average
CPT	9.0%	3.1%	8.9%
CDT	22.0%	11.4%	22.0%

Table 3: Overcharge Results Using 4-Year Periods

	Period 1 1995-1998	Period 2 1999-2002	Period 3 2003-2006	Period 4 2007	Weighted Average
CPT	7.9%	3.5%	6.7%	1.0%	6.0%
CDT	22.7%	33.3%	38.6%	32.6%	28.6%

Table 4: Overcharge Results Using 6-Year Periods

	Period 1 1995-2000	Period 2 2001-2006	Period 3 2007	Weighted Average
CPT	10.4%	6.1%	1.7%	8.5%
CDT	29.1%	17.7%	8.7%	26.4%

The record evidence, evaluated through economic principles and econometric methods, supports the reliability of my class-wide overcharge estimate. Defendants' criticisms, at most, illuminate

⁵¹ See "Models.do" in Ms. Guerin-Calvert's 2/15/2023 backup at lines 16-18.

the well-known reality that econometric analyses of economic issues using real world data requires judgment on the part of the researcher.^{52,53}

III. I limited my opinion on the Chinese “price floor” to the economic opinion that the economic reasoning proffered by Ms. Guerin-Calvert regarding the Chinese “price floor” is flawed and that my estimate of class-wide damages is reliable

At the request of Irico’s counsel, Ms. Guerin-Calvert submitted a supplemental report on March 16, 2022.⁵⁴ As part of her assignment, Ms. Guerin-Calvert was asked to assume that “[f]or at least some of the class period, Irico and other Chinese manufacturers were subject to regulation of their prices for certain categories of CPTs to keep them above a specific ‘floor’ determined by the Chinese government” and, based on that assumption, assess the “implication for Dr. Netz’s analyses and conclusions, including her assessment and estimation of damages[.]”⁵⁵

In her report, Ms. Guerin-Calvert references material, including a table with average production costs, not Irico’s production costs, from a Notification issued by the Ministry of Information

⁵² See, e.g.,

- As the widely-used text, *Introductory Econometrics, A Modern Approach*, explains, when developing an econometric model, a “commonly and effectively applied [approach] by careful researchers” is to “use economic reasoning and common sense as guides for choosing the variables.” Wooldridge, Jeffrey M., 2013, *Introductory Econometrics: A Modern Approach*, Fifth Edition, South-Western College Publishing: Mason, at 5.
- “The validity of data is ultimately a matter of judgment.” Federal Judicial Center and National Research Council, 2011, *Reference Manual on Scientific Evidence: Third Edition*, The National Academies Press: Washington, DC, at 484.

⁵³ The necessity of expert judgement in measuring causal damages is made multiple times in the *Reference Manual on Scientific Evidence*. See, e.g.,

- “Causation is the task of attributing cause and effect, a normal everyday cognitive function that ordinarily takes little or no effort. Fundamentally, the task is an inferential process of weighing evidence and using judgment to conclude whether or not an effect is the result of some stimulus. Judgment is required even when using sophisticated statistical methods. Such methods can provide powerful evidence of associations between variables, but they cannot prove that a causal relationship exists.” Federal Judicial Center and National Research Council, 2011, *Reference Manual on Scientific Evidence: Third Edition*, The National Academies Press: Washington, DC, at XIV.
- “Observational studies can produce legitimate disagreement among experts, and there is no mechanical procedure for resolving such differences of opinion. In the end, deciding whether associations are causal typically is not a matter of statistics alone, but also rests on scientific judgment.” Federal Judicial Center and National Research Council, 2011, *Reference Manual on Scientific Evidence: Third Edition*, The National Academies Press: Washington, DC, at 222.
- “Relatively few economists serving as damages experts succumb to Daubert challenges, because most damages analyses operate in the familiar territory of measuring economic values using a combination of professional judgment and standard tools.” Federal Judicial Center and National Research Council, 2011, *Reference Manual on Scientific Evidence: Third Edition*, The National Academies Press: Washington, DC, at 432.

⁵⁴ G-C Supplemental Expert Report.

⁵⁵ G-C Supplemental Expert Report, at ¶8.

Industry of the People's Republic of China".⁵⁶ She also cites to the expert report of Prof. Donald Clarke, one of Irco's experts.⁵⁷ Ms. Guerin-Calvert then "examined whether Dr. Netz's implied but-for prices were lower than the announced government price floors" she retrieved from these sources.⁵⁸

In response to Ms. Guerin-Calvert's supplemental report, Plaintiffs' counsel asked me to evaluate her arguments. I provided a rebuttal report that was filed April 27, 2022.⁵⁹ As I made clear in my rebuttal report, I reviewed the pricing documents attached to Prof. Clarke's report, as did Ms. Guerin-Calvert; I also made clear that I did not make any legal conclusions regarding these documents. Rather, I used them to inform the analysis of the economic implications of the purported price floor:

"The assumption that 'price floors set by the Chinese government for at least some categories of CPTs during at least some portions of the class period represent a potential constraint on but-for pricing' is based on both legal and economic assumptions. I do not make conclusions on whether these price floors are legally binding or appropriate."⁶⁰

I also explained that "I did review the Pricing Documents attached to Professor Clarke's report to inform the economic analysis of the implication of a price floor, assuming these documents create a 'price floor', a conclusion about which I do not offer an opinion."⁶¹

As I explained,⁶² the pricing notices attached to Professor Clarke's report mention two production costs: (1) average industry production costs and (2) a manufacturer's own production costs. These costs are economic terms and are relevant for evaluating economic impact, and thus, are within my area of expertise.

Defendants' claims that I lack "any patina of expertise in Chinese law to challenge the report of Prof. Clarke"⁶³ is either an irrelevant, red herring argument (as I explicitly do not challenge – as out of my area of expertise – Prof. Clarke's conclusions or attempt to interpret any legal aspects of the documents appended to his report) or a demonstration of their lack of understanding of my report. In either case, their argument that I am "over my skis" is both invalid and false. Defendants may disagree with my conclusions, but I did what Ms. Guerin-Calvert did: I gathered "price floors" from the documents and then compared them to but-for prices from my model and the data.

My analyses of Ms. Guerin-Calvert's comparison of but-for prices implied by my model to the price floors she took from the documents appended to Prof. Clarke's report showed that her analysis was flawed and did not change my economic conclusion that my damages model is economically sound. Specifically, I showed that the level of price floors is ambiguous in the

⁵⁶ G-C Supplemental Expert Report, at ¶24.

⁵⁷ G-C Supplemental Expert Report, at footnote 46.

⁵⁸ G-C Supplemental Expert Report, at ¶29.

⁵⁹ Netz Rebuttal to Supplemental Reports.

⁶⁰ Netz Rebuttal to Supplemental Reports, at 3-4, emphasis added.

⁶¹ Netz Rebuttal to Supplemental Reports, at 4, emphasis added.

⁶² Netz Rebuttal to Supplemental Reports, at 6.

⁶³ Irco Defendants' Motion to Exclude, at 20.

documents used by Ms. Guerin-Calvert, with references both to a manufacturer's cost and industry average costs; that the price comparisons she did perform were not for Irico; and that her calculations failed to account for CPT shape. Accounting for these flaws in Ms. Guerin-Calvert's comparisons shows that two out of three of her comparisons are inconsistent with her conclusions, and the third is ambiguous. Thus, properly understood, Ms. Guerin-Calvert's results are not supported by her flawed evidence.

Defendants argue that my damages model is unreliable because it does not incorporate the putative Chinese price floor. I have shown that Ms. Guerin-Calvert's supposed evidence that the implications of my model are inconsistent with the Chinese price floor is itself unreliable and actually shows that my model is consistent with the Chinese price floor. Neither Defendants nor Ms. Guerin-Calvert dispute my analysis. Thus, there is no evidence that my model should incorporate the putative price floor in any additional way (I have already included variables related to production costs, which is the basis for the price floor⁶⁴).

IV. Conclusion

Defendants' claims regarding the supposed unreliability of my class-wide overcharges model rely on false premises, faulty reasoning, incorrect data, and irrelevant claims that do not undermine the reasonableness of the approach, model, data, results, or conclusions I presented in my Merits Report.

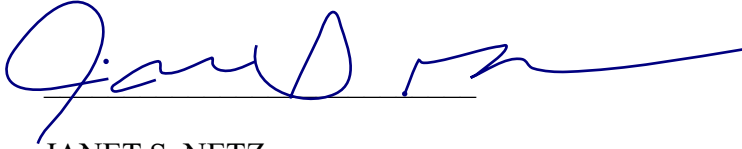
I maintain my conclusion that 22.0% and 9.0% are reasonable and reliable measures of the direct overcharge imposed on CDTs and CPTs, respectively, for 1995- 2006. After the governmental investigations into price-fixing by LCD manufacturers, some of which were also CRT manufacturers, the overcharges were reduced to 11.4% and 3.1%, for CDTs and CPTs, respectively.

I have not, and do not, offer any opinions on the legal basis or interpretation of the Chinese regulations referenced by Prof. Clarke and Ms. Guerin-Calvert. My economic opinion is that the economic reasoning proffered by Ms. Guerin-Calvert regarding the Chinese price floor is flawed and that my estimate of class-wide damages is reliable.

⁶⁴ See, e.g.,

- Clarke, Donald, 16 March 2022, Expert Report of Donald Clarke, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division), ¶¶15-19.
- G-C Supplemental Expert Report, at ¶23.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief. This declaration was executed on the 20th day of March 2023, at Oakland, California.

A handwritten signature in blue ink, appearing to read "Janet S. Netz", is written over a horizontal line.

JANET S. NETZ



Dr. Janet S. Netz

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Education

Ph.D. Economics, University of Michigan, 1992
M.A. Economics, University of Michigan, 1990
B.A. Economics, University of California at Berkeley, 1986, *cum laude*

Employment

Founder and Partner, applEcon, May 2001 to present
Visiting Associate Professor, University of Michigan, Fall 2001, Fall 2002, Fall 2003
Associate Professor, Purdue University, Fall 2001 to January 2003
Visiting Assistant Professor, University of Michigan, Winter 2001
Assistant Professor, Purdue University, Fall 1994 to Spring 2001
Assistant Professor, University of Delaware, Fall 1992 to Summer 1994

Courses Taught

Industrial Organization (undergraduate and doctoral)
Antitrust and Regulation (undergraduate)
Intermediate Microeconomics (undergraduate and master's)
Microeconomic Principles (undergraduate)
International Economics (undergraduate and master's)

Honors and Awards

Outstanding Antitrust Litigation Achievement in Economics, awarded by the American Antitrust Institute, for work In re TFT-LCD Antitrust Litigation, 2013.

Outstanding Economics Professor of the Year, Economics Club, Purdue University, 1999.

Publications

"Are All Men's College Basketball Players Exploited?", with Erin Lane and Juan Nagel, *Journal of Sports Economics*, 15(3), June 2014, 237-262.

"Price Regulation: Theory and Performance", in *Regulation and Economics*, Roger J. Van den Bergh and Alessio M. Paccas, eds., Edward Elgar Publishing, 2011.

"Sports Trivia: A Review of The Economics of Intercollegiate Sports by Randy R. Grant, John Leadley, and Zenon Zygmunt", *Journal of Economic Literature*, 47(2), June 2009, 485-489.

"One-Way Standards as an Anti-Competitive Strategy", with Jeffrey K. MacKie-Mason, in *Standards and Public Policy*, Shane Greenstein and Victor Stango, eds., Cambridge Press, 2007.

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"International Integration and Growth: A Survey and Empirical Investigation", with Vivian Lei and Jon D. Haveman, *Review of Development Economics*, 5(2), June 2001, 289-311.

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"Exercising Market Power in Proprietary Aftermarkets," with Severin Borenstein and Jeffrey K. MacKie-Mason, *Journal of Economic and Management Strategy*, 9(2), Summer 2000, 157-188.

"All in the Family: Family, Income, and Labor Force Attachment", with Jon D. Haveman, *Feminist Economics*, 5(3), November 1999, 85-106.

"Why Do All Flights Leave at 8am?: Competition and Departure-Time Differentiation in Airline Markets", with Severin Borenstein, *International Journal of Industrial Organization*, 17(5), July 1999, 611-640.

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"The Effect of Futures Markets and Corners on Storage and Spot Price Variability", *American Journal of Agricultural Economics*, 77(1), February 1995, 182-193.

"Antitrust Policy in Aftermarkets", with Severin Borenstein and Jeffrey K. MacKie-Mason, *Antitrust Law Journal*, 63(2), Winter 1995, 455-482.

"The Economics of Customer Lock-In and Market Power in Services", with Severin Borenstein and Jeffrey K. MacKie-Mason, in *The Service Productivity and Quality Challenge*, Patrick T. Harker, ed., Kluwer Academic, 1994.

Working Papers and Work in Progress

"LCDs and Antitrust: Does Crime Pay?", with Nick Navitski and Josh Palmer

"Fantasy Football Points as a Measure of Performance", with Erin Lane and Juan Nagel

"Non-Profits and Price-Fixing: The Case of the Ivy League"

"The End of Collusion? Competition after Justice and the Ivy League and MIT Settle"

"Basis and Exchange Rate Risks and their Impact on Storage and Exports"

Research Grants

"Product Customization and Product-Space Positioning", Dauch Center for the Management of Manufacturing Enterprises, Summer 2000.

"Trade Barriers, Trade Blocs, Growth, and Convergence", Purdue Research Foundation, 1998-1999.
"Effects of Informational Asymmetry on Competition in the Residential Long Distance Calling Market", Purdue Research Foundation, 1997-1998.

"Basis and Exchange Rate Risks and their Impact on Storage and Exports", Center for International Business and Economic Research, Summer 1997.

Global Initiative Faculty Grant (Course Development), "Industrial Organization in an International Marketplace", Purdue University, Summer 1997.

"Trade, Not Aid", Purdue Research Foundation, Summer 1996.

"Trade, Not Aid", Center for International Business and Economic Research, Summer 1996.

"The Effect of Price-Fixing by Institutions of Higher Education", Purdue Research Foundation, Summer 1995.

"Applied Microeconomics/International Workshop", Purdue University, Spring 1995.

"The Market Structure of Higher Education", University of Delaware, Summer 1993.

Research Associate, Center for the Study of Futures Markets, Columbia University, 1991.

Rackham Merit Fellowship, University of Michigan, 1987-1989.

Chancellor's Scholar, University of California at Berkeley, 1983-1986.

Referee

American Economic Review
Contemporary Economic Policy
Economics Bulletin
Feminist Economics
International Journal of the Economics of Business
International Journal of Industrial Organization
Journal of Economic Education
Journal of Economic and Management Strategy
Journal of Family and Economic Issues
Journal of Futures Markets
Journal of Industrial Economics
Journal of Law and Economics
Journal of Law, Economics, and Organization
Management Science
Review of Economics and Statistics
Scandinavian Journal of Economics

Telecommunications Systems

Conference and Workshop Presentations

Panel participant, "*Apple v. Pepper*: SCOTUS Clarifies Application of *Illinois Brick*", ABA Section of Antitrust Law, May 2019.

Panel participant, "Is 'Direct' Really Correct? Bricks, Tix, Kicks, and Apps after *Apple v. Pepper*", ABA Section of Antitrust Law, Pricing Conduct and Civil Practice and Procedure Committees Program, October 2018.

Panel participant, "Will Apple's App Store Lead to the end of *Illinois Brick*", CLA Antitrust, UCL & Privacy Law Section and ABA Antitrust Section's Global Private Litigation Committee program, San Francisco, CA, July 2018.

Guest lecturer, Antitrust Law, University of San Francisco Law School, April 2017 and 2018.

Panel participant, "The Challenge of Circumstantial Proof of Cartel Behavior and of Presenting Economic Issues and Concepts to Judges and Juries", American Antitrust Institute, 10th Annual Private Enforcement Conference, Washington, DC, November 2016.

Panel participant, "Winning or Losing: Class Certification Post-Comcast", American Bar Association, 62nd Antitrust Law Spring Meeting, Washington, DC, March 2014.

Panel participant, "Preparing Early and Often", State-of-the-Art Strategies for Managing Class Action Experts, American Bar Association, 16th Annual National Institute on Class Actions, Chicago, IL, October 2012.

Panel participant, "Hot Topics Involving Experts in Antitrust Litigation", New York State Bar Association, Antitrust Law Section, Annual Meeting, New York, NY, January 2011.

Guest lecturer, Alternative Dispute Resolution Practicum, University of Michigan Law School, April 2008.

"The Economics of Indirect Purchaser Cases", State Bar of Arizona Annual Conference, Phoenix, AZ, June 2004.

"Manipulating Interface Standards as an Anti-Competitive Strategy", Standards and Public Policy Conference, Federal Reserve Bank of Chicago, Chicago, IL, May 2004.

"One-Way Standards as an Anti-Competitive Strategy", Telecommunications Policy Research Conference, Alexandria, VA, September 2002.

"Product Proliferation and Product Space Location", Econometric Society Meetings, New Orleans, January 2001.

"The End of Collusion? Competition after Justice and the Ivy League and MIT Settle", American Economics Association Meetings, New Orleans, January 2001.

"The End of Collusion? Competition after Justice and the Ivy League and MIT Settle", Indiana University-Purdue University Indianapolis, November 2000.

"Maximum or Minimum Differentiation? An Empirical Investigation into the Location of Firms", University of British Columbia, March 2000.

"Non-Profits and Price-Fixing: The Case of the Ivy League", University of Illinois, October 1999.

"The End of Collusion? Competition after Justice and the Ivy League and MIT Settle", Baylor University, September 1999.

"The End of Collusion? Competition after Justice and the Ivy League and MIT Settle", Western Economic Association Meetings, San Diego, July 1999.

"Non-Profits and Price-Fixing: The Case of the Ivy League", University of Chicago, April 1999.

"Non-Profits and Price-Fixing: The Case of the Ivy League", Indiana University, December 1998.

"International Integration and Growth: A Survey and Empirical Investigation", Dynamics, Economic Growth, and International Trade, III, Taiwan, August 1998.

Discussant ("Fiscal Policy and International Demand Spillovers"), Dynamics, Economic Growth, and International Trade, III, An International Conference, Taiwan, August 1998.

"International Integration and Growth", Workshop on Empirical Research in International Trade and Investment, Copenhagen, June 1998.

Discussant ("Factor Endowments and the Pattern of Affiliate Production by Multinational Enterprises," by Karolina Ekholm), Workshop on Empirical Research in International Trade and Investment, Copenhagen, June 1998.

"Non-Profits and Price-Fixing: The Case of the Ivy League", Department of Justice Antitrust Division, April 1998.

"Non-Profits and Price-Fixing: The Case of the Ivy League", American Economics Association Meetings, Chicago, January 1998.

Discussant ("Equilibrium under Satisficing," by Ralph W. Pfouts), International Atlantic Economics Society, ASSA Meetings, Chicago, January 1998.

Discussant ("Overseas Investments and Firm Exports," by Keith Head and John Ries), Fourth Annual Empirical Investigations in International Trade conference, Purdue University, November 1997.

"Maximum or Minimum Differentiation? An Empirical Investigation into the Location of Firms", International Atlantic Economic Association Conference, Philadelphia, October 1997.

Discussant ("Antidumping Enforcement in a Reciprocal Model of Dumping: Theory and Evidence," Taiji Furusawa and Thomas J. Prusa) and session chair, Third Annual Empirical Investigations in International Trade conference, Purdue University, November 1996.

"The Effect of Price-Fixing by Institutions of Higher Education", Indiana University-Purdue University Indianapolis, April 1996.

"Exercising Market Power in Proprietary Aftermarkets", with Severin Borenstein and Jeffrey K. MacKie-Mason, Indiana University - Purdue University - IUPUI First Tri-School Conference, March 1996.

"All in the Family: Family, Income, and Labor Force Attachment", with Jon D. Haveman, American Economic Association Meetings, San Francisco, January 1996.

"Family Matters: Unemployment, Wage Changes, and Mobility", with Jon D. Haveman, Southern Economics Association Meetings, New Orleans, November 1995.

Discussant and session chair, Second Annual Empirical Investigations in International Trade conference, Purdue University, November 1995.

"Competition and Anti-Competitive Behavior", ICLE (The State Bar of Michigan) Conference on Antitrust and Intellectual Property, July 1995.

"Price-Fixing, Tuition, and Financial Aid", Midwest Economics Association Meetings, Cincinnati, April 1995.

"Family Matters: Unemployment, Wage Changes, and Mobility," Midwest Economics Association Meetings, Cincinnati, April 1995.

Discussant and session chair, "Customer Discrimination, Entrepreneurial Decisions, and Investment", Midwest Economics Association Meetings, April 1995.

"An Empirical Test of the Effect of Basis Risk on Cash Market Positions", University of Illinois, Urbana-Champaign, February 1995.

Discussant and session chair, First Annual Empirical Investigations in International Trade conference, Purdue University, November 1994.

"Antitrust Policy in Aftermarkets", with Severin Borenstein and Jeffrey K. MacKie-Mason, FTC/DOJ/ABA Conference on Post-Chicago Economics, Washington, D.C., May 1994.

"The Effect of Price-Fixing by Institutions of Higher Education, University of Delaware, May 1994.

"The Effect of Futures Markets and Corners on Storage and Spot Price Variability", Purdue University, February 1994.

"An Empirical Test of the Effect of Basis Risk on Cash Market Positions", University of California at Davis, February 1993.

Discussant, Econometrics Association, Anaheim, 1992 Annual Meetings.

"Testing the Principle of Minimum Differentiation: Airline Departure-Time Crowding", Econometrics Association, Washington, D.C., 1990 Annual Meetings.

Consulting and Testifying

Tamara Moore, et al. v. Mars Petcare US, Inc., et al., 2022-
United States District Court Northern District of California, No. 3:16-cv-7001-MMC
Testifying expert for plaintiffs

In re Hard Disk Drive Suspension Assemblies Antitrust Litigation, 2022-
United States District Court Northern District of California, No. 19-md-02918-MMC
Testifying expert for plaintiffs
Deposed December 2022

Jessica Jones, et al. v. Varsity Brands, LLC, et al., 2022-
United States District Court Western District of Tennessee, No. 2:20-cv-02892-SHL-tmp
Testifying expert for plaintiffs
Deposed January 2023

Vanzant, et al. v. Hill's Pet Nutrition, Inc., and PetSmart, Inc., 2022-
United States District Court Northern District of Illinois Eastern Division, No. 1:17-cv-2535
Testifying expert for plaintiffs
Deposed June 2022, November 2022

Automobile Antitrust Cases I and II, 2021-
Superior Court of California County of San Francisco Unlimited Jurisdiction, No. CJC-03-004298 and
CJC-03-004303
Testifying expert for plaintiffs
Deposed September 2021

Contant v. Bank of America, 2019-
United States District Court, Southern District of New York, No. 17-cv-3139-LGS
Testifying expert for plaintiffs

Barroqueiro, et al. v. Qualcomm Incorporated, et al., 2019-
Supreme Court of British Columbia, VLC-S-S1410987
Testifying expert for plaintiffs

Confidential client, 2018-
Antitrust analysis regarding pharmaceutical products

In re Malden Transportation, Inc. et al., v. Uber Technologies, Inc., 2018-2019
United States District Court, District of Massachusetts, No. 1:16-cv-12538-NGM
Testifying expert for plaintiffs
Deposed January 2019

Confidential client, 2017-2018
Antitrust analysis regarding various cellular phone components

In re Automotive Parts Antitrust Litigation
United States District Court, Eastern District of Michigan Southern Division, No. 2:12-cv-02311
Testifying expert for plaintiffs

- In re Occupant Safety Systems, No. 2:12-cv-00603, 2018-
- In re Heater Control Panels, No. 2:12-cv-00403, 2018-
- In re Anti-Vibrational Rubber Parts, No. 2:13-cv-00803-MOB-MKM, 2016-
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United States District Court, Northern District of Illinois, No. 14-cv-00876
Testifying expert for plaintiff
Deposed May 2017
Testified at trial May 2017

In re LIBOR-Based Financial Instruments Antitrust Litigation, 2016-
United States District Court, Southern District of New York, No. 1:11-md-02262-NRB
Testifying expert for plaintiffs
Deposed March 2017, June 2017

Stacey Pierce-Nunes, on behalf of herself and all others similarly situated, v. Toshiba American
Information Systems, 2015-2016
United States District Court, Central District of California, No. 3:14-CV-00796 JST
Testifying expert for plaintiffs
Deposed April 2016

John Moseley v. Toshiba America Information Systems, Inc., 2015-2016
Judicial Arbitration and Mediation Services No. 1200049482
Testifying expert for claimant
Deposed July 2015

In re Cathode Ray Tube (CRT) Antitrust Litigation, 2008-
United States District Court, Northern District of California, San Francisco Division, No. CV-07-5944
Testifying expert for plaintiffs
Deposed November 2012, March 2013, June 2014, September 2014, October 2014, June 2022

In re Photochromic Lens Antitrust Litigation, 2010-2012
United States District Court Middle District of Florida, Tampa Division, No. 8:10-md-02173-JDW-EAJ
Testifying expert for plaintiffs
Deposed August 2012

Datel Holdings and Datel Design and Development v. Microsoft, 2010-2011
United States District Court, Northern District of California, San Francisco Division, No. 09-cv-05535
Testifying expert for plaintiffs
Deposed October 2011

In re Prefilled Propane Tank Marketing and Sales Practices Litigation, 2010-2011
United States District Court, Western District of Missouri, Western Division, No. 4:09-cv-00465
Testifying expert for plaintiffs

In re Florida Cement and Concrete Antitrust Litigation, 2010
United States District Court, Southern District of Florida, Miami Division, No. 1:09-cv-23493-CMA
Consulting expert for plaintiffs

Altair Engineering v. MSC Software, 2009-2010
United States District Court, Eastern District of Michigan, Southern Division, No. 2:07-cv-12807
Testifying expert for plaintiff
Deposed May 2010

In re Optical Disk Drive products Antitrust Litigation, 2009-2010
United States District Court, Northern District of California, San Francisco Division, No. M:2010-cv-02143
Consulting expert for plaintiffs

In re Flash Memory Antitrust Litigation, 2008-2011
United States District Court, Northern District of California, Oakland Division, No. C-07-0086-SBA
Testifying expert for plaintiffs
Deposed August 2009

Valassis Communications, Inc. v. News America, Inc., 2008-2009
United States District Court, Eastern District of Michigan, Southern Division, No. 2:06-cv-10240
Circuit Court of the State of Michigan, County of Wayne, No. 07-0706645-CZ
Consulting expert for plaintiff

In re TFT-LCD (Flat Panel) Antitrust Litigation, 2008-2012
United States District Court, Northern District of California, San Francisco Division, No. M:07-cv-01827
Testifying expert for plaintiffs
Deposed July 2009, June 2011, August 2011

Houston Baptist University v. NCAA, 2008-2009

United States District Court in and for the Southern District of Texas, Houston Division

Testifying expert for plaintiff

Seoul Semiconductor Co. v. Nichia Corp., 2008

United States District Court, Northern District of California, No. 3:08-cv-04932-PJH

Testifying expert for plaintiffs

Albert Andy Cohn v. Office Depot, 2008

Superior Court of the State of California, County of Los Angeles, Central District, No. BC 372449

Testifying expert for defendant

In re Graphics Processing Units Antitrust Litigation, 2007-2008

United States District Court Northern District of California, No. M:07-CV-01826-WHA

Testifying expert for plaintiffs

Deposed June 2008

Pro-Sys Consultants Ltd. and Neil Godfrey v. Microsoft, 2007-2018

Supreme Court of British Columbia, No. L043175, *Vancouver Registry*

Testifying expert for plaintiffs

Deposed December 2008

In re Dynamic Random Access Memory (DRAM) Antitrust Litigation, 2007

United States District Court, Northern District of California, No. 02-cv-01486

Consulting expert for plaintiffs

Jason White et al. v. NCAA, 2006-2008

United States District Court Central District of California, No. CV 06-0999 RGK (MANx)

Testifying expert for plaintiffs

Deposed October 2007

In re Reformulated Gasoline (RFG) Antitrust and Patent Litigation, 2004-2008

United States District Court Central District of California, No. 05-1671 CAS

Testifying expert for plaintiffs

Deposed December 2006

Carlisle, settlement negotiations with Crompton, EPDM price-fixing cartel, 2005-2007

Consulting expert

Caterpillar and Carlisle, settlement negotiations with DuPont-Dow Elastomers, PCP (or CR) and EPDM price-fixing cartels, 2004-2005

Consulting expert

City and County of San Francisco et al. v. Microsoft, 2004-2007

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Testifying expert for plaintiffs

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United States District Court Eastern District of Michigan Southern Division, No. 02-73361

Project director

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Testifying expert for plaintiffs

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Project director

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CV2000-005872
Testifying expert for plaintiffs
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No. 00-2456
Consulting expert

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Montana First Judicial District Court Lewis & Clark County, No. CDV-2000-219
Consulting expert

Covad v. Bell Atlantic (Verizon), 2001-2004
United District Court for the District of Columbia, No. 99-1046
Project director

AMD, 2000-2004
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Leckrone, et al. v. Premark International, Inc., et al., 2001
Testifying expert for plaintiffs

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Testifying expert for plaintiffs

SBC, 2000
Staff economist

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Project director

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Staff economist

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Staff economist

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United States District Court District of Massachusetts, No. 90-13088-WF

Project director

Systemcare, Inc. v. Wang Computer, 1991-1993

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Staff economist

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Exhibit B: Confidential Documents without Bates Numbers Relied Upon in the Declaration of Janet S. Netz, Ph.D. in Response to IRICO Defendants' Motion to Partially Exclude Testimony

Clarke, Donald, 16 March 2022, Expert Report of Donald Clarke, In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division)

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All materials cited in the report, appendices, or backup files to the Netz Expert Reports.

Exhibit C: Documents Relied Upon in the Declaration of Janet S. Netz, Ph.D. in Response to IRICO Defendants' Motion to Partially Exclude Testimony

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